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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,703	09/26/2003	Loren Dean	MWS-035	9252
74321 7590 04/07/2008 LAHIVE & COCKFIELD, LLP/THE MATHWORKS One Post Office Square Boston, MA 02109-2127				
EXAMINER				
VERDI, KIMBLEANN C				
ART UNIT		PAPER NUMBER		
2194				
MAIL DATE		DELIVERY MODE		
04/07/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/671,703

Applicant(s)

DEAN ET AL.

Examiner

KimbleAnn Verdi

Art Unit

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-21 and 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21 and 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 19-21 and 23-44 are pending in the current application.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claims 23-24 and 26-33 refer to a computer program product embodied on a computer readable medium, however the specification does not disclose a computer readable medium.

Claim Objections

2. Claims 19, 24-26, and 34 are objected to because of the following informalities:
- a. claim 1, line 1, the recitation of "a source", should be a "data source";
 - b. claim 1 and 34, the recitation of "the memory", should be "a memory", for example claim 1, line 6;
 - c. claim 1 and 34, the recitation of "the location", should be "a location", for example claim 1, lines 8-9;
 - d. claim 24-26 the recitation of "the respective data sink objects", should be "the respective one of the multiple data sink objects", for example claim 24, lines 1-3;
 - e. claim 24 and 26, the recitation of "data listener objects", should be "data listener object", for example claim 24, line 2;

- f. claim 34, line 9, the recitation of "the data server", should be " the data server object",
- g. claim 34, line 14, the recitation of "the multiple data sink objects", should be " the data sink objects".
- h. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claim 44, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 19-33 and 34-44 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

8. Claims 19-33 recite a "A data transfer system" ' however, it appears that a data transfer system would reasonably be interpreted by one of ordinary skill in the art as software, per se since the body of the claim appears to be software. Applicant claims an interface, a data processor, and a data server, as described by Applicant's specification, appear to be data structures which are functional descriptive material. However, function descriptive material is nonstatutory when claimed as descriptive material per se. Applicant describes the functionality of an interface, a data processor, and a data server but does not disclose any hardware structure. As such, it is believed that a data transfer system of claims 19-33 is reasonably interpreted as functional descriptive material, per se and non statutory.

9. Claims 34-44 recite a "computer readable medium" and the specification fails to provide antecedent bases for this limitation [see objection to the specification above]. Without antecedent basis for "computer readable medium", it is unclear if the limitation intended to be the same as the storage media described as part of the disclosed program product or whether it's intended to be broader than the disclosed storage media. It is believed that the limitation "computer readable medium" is intended to claim something broader than the disclosed storage media and cover signals, waves and other forms of transmission media, that carry instructions. Therefore, the limitation

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"computer readable medium" is not limited to physical articles or objects which constitute a manufacture within the meaning of 35 USC 101 and enable any functionality of the instructions carried thereby to act as a computer component and realize their functionality. As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 19-21, 27-29, 31, 33-34, 36, and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over 6,256,625 B1 to Breyer et al. (hereinafter Breyer) in view of 5,911,066 to Williams et al. (hereinafter Williams).

12. As to claim 19, Breyer teaches the invention substantially as claimed including a data transfer system for transferring data from a data source to multiple data sink objects in a computer system, wherein the data source is coupled to the computer, the system comprising:

an interface for communicating with the data source to receive the data from the data source (IMAQ Control Object, Fig. 5, col. 2, lines 35-36);

a data processor for encapsulating the data into a data object in memory (CPU 202, Fig. 2); and

Breyer does not explicitly disclose a data server for transferring to the multiple data sink objects identification information identifying the data object, the data server providing a pointer indicating the location of the data object in the memory to identify the data object; and

the multiple data sink objects access the data object using the identification information and sharing the data object among the multiple data sink objects to prevent extraneous copies of the data.

However, Williams teaches a data server (Data Source 1102, Fig. 11) for transferring to the multiple data sink objects identification information identifying the data object (step 1202, Fig. 12, col. 15, lines 25-27), the data server providing a pointer indicating the location of the data object in the memory to identify the data object (step 1204, Fig. 12, col. 15, lines 25-29); and

the multiple data sink objects access the data object using the identification information (step 1204-1208, Fig. 12, col. 15, lines 27-45 and col. 17, lines 34-36) and sharing the data object among the multiple data sink objects to prevent extraneous copies of the data (col. 5, lines 12-22, col. 15, lines 25-45 and col. 17, lines 34-36).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified the dynamic binding mechanism of Breyer with the teachings of a data transfer mechanism from Williams because this feature would

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have provided a mechanism and interface to computer programs so that the computer programs may transfer data in a uniform manner after a connection is established (col. 5, lines 54-58 of Williams).

13. As to claim 20, Breyer as modified teaches wherein the data server includes a list listing the multiple data sink objects that are registered with the data server (col. 16, lines 8-22 of Williams).

14. As to claim 21, Breyer teaches the system of claim 19 wherein the computer system provides a technical computing environment (video capture system, col. 2, lines 23-33).

15. As to claim 27, Breyer teaches the system of claim 19 wherein the data source provides data sequence continuously for a period of time (sequence of image data, col. 4, line 37).

16. As to claim 28, Breyer teaches the system of claim 19 wherein the data source provides a package of data, the package of data being used independently of other packages of data (compressed data, col. 4, line 37).

17. As to claim 29, Breyer teaches the system of claim 28 wherein the package of data includes a frame of image data (video frame, col. 4, lines 31-37).

18. As to claim 31, Breyer teaches the system of claim 19 wherein the data processor configures a maximum amount of memory that all data objects use at a given instance of time (col. 6, lines 64-67, col. 7, lines 1-2).

19. As to claim 33, Breyer teaches the system of claim 19 wherein the interface, the data processor, and the data server are implemented independently of MATLAB (image application, col. 6, lines 51-54).

20. As to claim 34, this claim is rejected for the same reasons as claim 19, see the rejection to claim 19 above.

21. As to claim 36, this claim is rejected for the same reasons as claim 21, see the rejection to claim 21 above.

22. As to claim 42, Breyer teaches the medium of claim 34 wherein the instructions are run independently of MATLAB (image application, col. 6, lines 51-59).

23. As to claim 43, Breyer teaches the medium of claim 34 wherein the instructions are originated from code written with C programming language (col. 11, line 41).

24. As to claim 44, Breyer as modified teaches wherein the instructions are originated from code written with an object-oriented programming language such as C++, C# and Java (col. 6, lines 26-27 of Williams).

25. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over 6,256,625 B1 to Breyer, as modified by 5,911,066 to Williams et al. (hereinafter Williams), as applied to claim 19 above, and further in view of 5,986,667 to Jevans.

26. As to claim 23, Breyer as modified by Williams does not explicitly teach at least one or more data listener object that is registered to a respective one of the multiple data sink objects.

However, Jevans teaches one or more data listener object that is registered to the multiple data sink object (Registering a renderer, col. 11, lines 40-55).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have further modified the image object of Breyer as modified by Williams with the teachings of a renderer from Jevans because this feature would have further provided a mechanism which allows retained-mode building and editing of a model, independently of the choice of renderer in a graphics rendering system (col. 5, lines 57-60 of Jevans).

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27. As to claim 24, Breyer as further modified teaches the system of claim 23 wherein the respective data sink object deletes each of the at least one data listener objects registered with the data sink object when the respective data sink object is deleted (object delete function, lines 40-55 of Jevans).

28. As to claim 25, Breyer as further modified teaches the system of claim 23 wherein the respective data sink object notifies each of the at least one data listener when state of the respective data sink object changes (ErWF_Register:TypeChangedMethod, col. 11, lines 45-67, col. 12, lines 1-20 of Jevans).

29. As to claim 26, Breyer as further modified teaches the system of claim 23 wherein the respective data sink object notifies each of the at least one data listener when the respective data sink object is updated with a new data object (ErWF_Register:AttributeSetChangedMethod, col. 11, lines 45-67, col. 12, lines 1-20 of Jevans).

30. Claims 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over 6,256,625 B1 to Breyer, as modified by 5,911,066 to Williams et al. (hereinafter Williams), as applied to claims 19 and 28 above, and further in view of 2003/0041163 A1 to Rhoades et al. (hereinafter Rhoades).

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31. As to claim 30, Breyer as modified by Williams does not explicitly teach wherein the package of data includes a scan of radar, sensor, or audio data, as well as network data packets.

However, Rhoades teaches wherein the package of data includes a scan of radar, sensor, or audio data, as well as network data packets (paragraph 0127).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have further modified the image data of Breyer as modified by Williams with the teachings of a data packet from Rhoades because this feature would have further provided a new processor architecture that is suitable, specifically but not exclusively, for Data Flow processing problems (paragraph 0010 of Rhoades).

32. As to claim 32, Breyer as further modified teaches the system of claim 19 further comprising a processor for controlling the interface, the data processor, and the data server, wherein the processor is 64 bits or more (ALU of processor, paragraph 0088 of Rhoades).

33. Claims 35, 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over 6,256,625 B1 to Breyer, as modified by 5,911,066 to Williams et al. (hereinafter Williams), as applied to claim 34 above, and further in view of 6,823,524 B1 to Hewett.

34. As to claim 35, Breyer as modified by Williams does not explicitly teach a data sink listener object that is registered with one or more of the data sink objects.

However, Hewett teaches a data sink listener object that is registered with one or more of the data sink objects (event generator object (A) 30, Fig. 5, event listener object (B) 32, Fig. 5, col. 4, lines 27-30, and step 64, Fig. 6, col. 4, lines 61-64).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have further modified the image object of Breyer as modified by Williams with the teachings of an event object from Hewett because this feature would have further provided a mechanism for a object-oriented data processing system which uses events to pass control from an event generator object to a listener object (col. 1, lines 21-25 of Hewett).

35. As to claim 37, Breyer further as modified teaches the medium of claim 35 wherein the data sink listener object performs a task relating to a function of a respective one of data sink object (object B can receive and execute event E1, col. 4, lines 3-9 of Hewett).

36. As to claim 38, Breyer as further modified teaches the medium of claim 35 wherein the data sink listener object performs a task relating to a function of a respective one of the data sink object on a thread of the data server object (run on common thread, col. 4, lines 24-25 of Hewett).

37. As to claim 39, Breyer as further modified teaches the medium of claim 35 wherein the data sink listener object performs a task relating to a function of a respective one of the data sink object on a thread different from that of the data server object (NLS objects run on separate threads 46, 50, Fig. 5, col. 4, lines 40-45 and step 86, Fig. 7 of Hewett).

38. As to claim 40, Breyer as further modified teaches the medium of claim 34 wherein at least one of the data sink object perform a function on a thread of the data server object (step 82, Fig. 7 of Hewett).

39. As to claim 41, Breyer as further modified teaches the medium of claim 34 wherein at least one of the data sink object perform a function on a thread different from that of the data server object (event generator object passes event objects in separate threads, col. 4, lines 50-53 of Hewett).

Response to Arguments

40. Applicant's arguments filed January 23, 2008 have been fully considered but they are not persuasive. In response to the Non-Final Office Action dated August 23, 2007, applicant argues in regards to claims 19-21 and 23-44:

(1) Applicants respectfully submit that Breyer and Dutta, alone or in any reasonable combination, fail to disclose or suggest sharing the data object among the multiple data sink objects to prevent extraneous copies of the data as recited in mended claim 19 (page 8, lines 1-3).

In response to argument (1), Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

(2) Hewett does not teach "a data sink listener object that is registered with two or more of the data sink objects," as recited in claim 35 (page 12, lines 14-15).

In response to argument (2), examiner respectfully disagrees and notes that the features upon which applicant relies (i.e., registered with two or more of the data sink objects) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

41. The prior art made of record on the accompanying PTO-892 and not relied upon, is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KimbleAnn Verdi whose telephone number is (571)270-1654. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 29, 2008
KV

/VAN H NGUYEN/

Primary Examiner, Art Unit 2194

